

Application Ser. No. 10/501,110
Amendment and Response dated December 17, 2007
Reply to Office Action of July 19, 2007

Attorney Docket No. 61625(70232)

AMENDMENTS TO THE CLAIMS

Please amend claim 1. The following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) An immunoassay for detecting the presence of a water-sparingly-soluble/hardly extractable protein in a sample, comprising the steps of:
 - (1) extracting and/or solubilizing a water-sparingly-soluble/hardly extractable protein in a sample with an aqueous solvent containing an ionic surfactant to provide a protein solution,
 - (2) adding an antibody ~~obtained by using, wherein the antibody is raised against~~ the water-sparingly-soluble/hardly extractable protein ~~as immunogen that is~~ denatured previously with the ionic surfactant used in step (1), to:
 - a) the protein solution obtained in the step (1) above without substantially diluting the solution, or
 - b) a dilution ~~wherein of~~ the protein solution obtained in the step (1) above, wherein the protein solution is diluted ~~in such a range that~~ the concentration of the ionic surfactant is not reduced to 0.03% (W/V) or less, whereby thereby forming an antigen-antibody complex between the water-sparingly-soluble/hardly extractable protein and the antibody ~~is formed~~, and
 - (3) detecting the formed antigen-antibody complex.
2. (Original) The assay according to claim 1, wherein the concentration of the ionic surfactant in the aqueous solvent in step (1) is higher than 0.3% (W/V).
3. (Original) The assay according to claim 1 or 2, wherein the formation of the antigen-antibody complex in step (2) is carried out in the presence of the ionic surfactant at a concentration of higher than 0.3% (W/V).
4. (Previously presented) The assay according to claim 1, wherein the ionic surfactant is selected from the group consisting of sodium dodecyl sulfate, lithium dodecyl sulfate, sodium lauryl sarcosine, hexadecyltrimethyl ammonium bromide,

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hexadecyltrimethyl ammonium chloride, hexadecyl pyridinium chloride and a mixture thereof.

5. (Original) The assay according to claim 4, wherein the ionic surfactant is sodium dodecyl sulfate.
6. (Previously presented) The assay according to claim 1, wherein the aqueous solvent in step (1) further comprises a reducing agent.
7. (Original) The assay according to claim 6, wherein the reducing agent is 2-mercaptoethanol, dithiothreitol or a mixture thereof.
8. (Original) The assay according to claim 7, wherein the aqueous solvent in step (1) comprises 1% (W/V) sodium dodecyl sulfate and 1M 2-mercaptoethanol.
9. (Previously presented) The assay according to claim 1, wherein in step (1), the protein solution is further boiled.
10. (Original) The assay according to claim 9, wherein the boiling is continued at least at 80°C for 5 minutes.
11. (Previously presented) The assay according to claim 1, wherein the protein is selected from the group consisting of ovalbumin, ovomucoid, casein, β -lactoglobulin, buckwheat protein, wheat protein and peanut protein which are in a hardly extractable state.
12. (Previously presented) An antibody suitable for detecting the presence of a protein in an aqueous solvent containing an ionic surfactant, wherein the protein is selected from the group consisting of ovalbumin, ovomucoid, casein, β -lactoglobulin, buckwheat protein, wheat protein and peanut protein and said antibody is raised against said protein denatured with said ionic surfactant.

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13. (Previously presented) The antibody according to claim 12, wherein the ionic surfactant is selected from the group consisting of sodium dodecyl sulfate, lithium dodecyl sulfate, sodium lauryl sarcosine, hexadecyltrimethyl ammonium bromide, hexadecyltrimethyl ammonium chloride, hexadecyl pyridinium chloride and a mixture thereof.

14. (Previously presented) The antibody according to claim 13, wherein the ionic surfactant is sodium dodecyl sulfate.

15. (Previously presented) The antibody according to any one of claims 12 to 14, wherein the protein is denatured with the ionic surfactant under the presence of a reducing agent.

16. (Previously presented) The antibody according to claim 15, wherein the reducing agent is 2-meraptoethanol, dithiothreitol or a mixture thereof.

17. (Previously presented) An immunoassay kit for detecting the presence of a protein selected from the group consisting of ovalbumin, ovomucoid, casein, β -lactoglobulin, buckwheat protein, wheat protein and peanut protein which comprises the antibody according to any one of claims 12.